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Sabra M. Kimball

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COVER: Yellow-Shafted Flickers, by Sabra Kimball, Melfa, Virginia

Letters

BACK TO BIG RUN — AGAIN

I recently read an article by Gerald Almy entitled "I Keep Going Back to Big Run." I certainly think the National Park Service would be interested in this one.

For one thing, trout season does not open in Shenandoah National Park until the first Sunday in April, and this article appearing in the April issue does seem absurd.

Also, the author makes a point about his fire: "We picked up some branches and I made a fire." As we backpackers know, fires are a no-no. That's a $25.00 fine right there.

One more point convinced me that something is amiss. "The burnt-orange sun ducked swiftly behind Brown Mountain." For anyone on or near Big Mountain, the sun would never sink behind Brown Mountain, decidedly to the East.

Steve Roberti
Fairfax

Indeed, the area game warden (not the Park Service) would be interested in Mr. Almy if he were fishing off season; throughout the state of Virginia, trout season opens in early April. However, we're not sure why that makes the article's publication in the April issue "absurd." On the contrary, when would a trout fishing article be more appropriate? If you're concerned that its appearance a few days before the opening day is a temptation, we can't share your concern. Most Virginians are law-abiding citizens. On the other hand, if you're concerned that Mr. Almy broke the law and went fishing "early" to get his "scoop," rest assured that he didn't. Since our articles are written well in advance of their publication, the article was based on a trip taken during trout season and before current regulations concerning fires went into effect.—Assistant Editor

CORRECTIONS

The telephone number at the end of "Chumming on the Chesapeake" (June 1980) given for headboat information has been changed: 804/529-6725.

In the July edition of *Growing Up Outdoors*, there is a mistake in the word jumble: in the fifth fill-in-the-blank word, the first and second letters should be circled, *not* the fifth letter.

"MASS" APPEAL

Last year I subscribed to *Virginia Wildlife* for my father-in-law and for myself. It is my firm conviction that yours is by far and away the best publication of its kind I've ever seen. My father-in-law is most definitely of the same opinion, and he lives in rural Massachusetts. He "devoured" each issue, then gave it to my brother-in-law who would also read it from cover to cover, then it would vanish into an unknown number of hands of fellow workers at the Starett Tool Company in Athol, Massachusetts before finally returning to my brother-in-law's desk. So, you see, you are well known and enjoyed even in New England. It is easy to see why: you put out a super magazine!

J. Lloyd Black
Winchester

Editorial

THE DEATH OF THE AGE OF MAMMALS?

"The rumors of my death are greatly exaggerated."
-Mark Twain

Natural History Magazine recently reprinted an article, "Can We Save the Mammals?" from their September-October 1922 issue. It paints a gloomy picture for our furbearers. As it says in summary,

> "Close of The Age of Mammals." This title is not the cry of the alarmist; it is the expression of an actual and most melancholy fact, namely, that the glorious Age Of Mammals is closing, that man will soon be alone amid the wreck of creation. . . . Forty years ago, the birds of the world were in great danger of extinction, partly because of the ruthlessness of the man with the gun whom we will not designate a sportsman [and] partly because of the frivolous demands of the equally ruthless woman of fashion. . . . The destruction of birds of beauty and of song for the relentless purposes of fashion has been stopped so far as North America is concerned. . . . The saving of the birds renders us hopeful that certain of the finest kinds of mammals, including those which are nearing extinction from natural causes, as well as many of the furbearers that have been reduced in numbers through persistent persecution, can still be saved. . . .
>
> Nothing in the history of creation has paralleled the ravages of the fur and hide trade, which, with the bone fertilizer trade, now threatens the entire vertebrate kingdom. . . . Figures for the year 1919, 1920, and 1921 show the large number of skins sold all over United States at the fur auctions. . . . The discounted total of all skins sold for the three years in question reaches the alarmingly large figure of 107,689,927* skins. . . . In a few years, some of the mammals now sought by the trappers will be killed off to a point where they will not repay trapping, the numbers taken being insufficient to justify the expenditure of time and effort.

The fact that these doomsday predictions did not come true is testimony to good wildlife management and the ability of man to regulate his impact on wildlife populations. Good statistics on the national volume of the fur industry aren't much easier to come by than they were in 1922. If we take three years of U.S. Fur Harvest (estimated from 16 representative states furnishing records), we see that more of all species except mink are being taken currently than at the time of the article. The figures used in the article are based on the New York fur trade, so would contain more than North American skins. Mink skins have not been overly valuable in recent years and fur farmers now produce nearly all of the fancy mink used in coats.

Species	1919-21 U.S.	Virginia 3 Years	Current U.S. (EST) 3 Years
Beaver	420,490	22,389	714,000
Mink	2,540,971	16,518	594,750
Red fox	1,295,258	28,206	1,455,000
Raccoon	1,713,700	328,143	10,875,000
Muskrat	14,109,288	550,899	18,490,950

Looking at this 60-year span, especially when one considers the loss of habitat during this period, it is clear that there is such a thing as a biological surplus which can be cropped annually for the benefit of man without permanently reducing wildlife populations. The cries of doom may have been well-founded in their day, but the expertise of the biologists has prevailed, at least in North America.—HLG

**includes imported skins*

Opening Day Doves

Tips to make opening day a success when you're going after these masters of deception.

by Charles D. Bays

Doves are masters of deception. Before the traditional opening day in September, you'll see them dozing along power lines, or waddling along roadsides on stubby legs not made for serious walking. The hunter would appear to have an unfair advantage over this feathered symbol of peace.

On opening day, however, they drop this masquerade, turning into twisting, diving, darting five-ounce targets that on one afternoon's shoot may account for more spent shells than a season of grouse hunting.

And they're fickle. Unlike quail, doves show no loyalty to a field which last year provided a good shoot, or last week held good concentrations of the migratory birds.

Pre-season scouting to locate a field containing doves is vital in order to insure a successful shoot. One way to do this is by driving rural roads, watching for recently-harvested cornfields or patches of lespedeza, millet, foxtail, ragweed, peas, peanuts, small grain or any other available feed that is attracting doves. Watering holes, especially in late afternoon, can also be productive spots.

Once a field holding good numbers of doves is located, find the owner and ask his permission to hunt. This is getting to be sticky business. Landowners are becoming increasingly hesitant to give a dove hunter permission to hunt — and with good reason. Give five hunters permission to shoot a field and, too often, five times that number are likely to appear on opening day.

When asked for permission to hunt a dove field, tell the farmer how many hunters will be in the party *and hold to that number*. If the farmer advises he has given permission only to you and your party to hunt, ask him if he would like you to have any other hunters who stop at the field report to him. You may get some static from intruding slobs disguised as hunters, but you'll gain the landowner's confidence — and have a place to hunt the following year.

After locating a field that's attracting doves, and gaining permission to hunt, keep a close check on it, especially the last few days before the season opens. If the supply of food is depleted or if they find a nearby area more to their liking, the field may be completely devoid of birds on the day of the shoot. For this reason, it is also a good idea to have already scouted out neighboring farms and to have gotten acquainted with the landowners.

If a late-afternoon check proves the doves have moved out, drive to these adjoining farms and look for more recently-cut corn or other available sources of feed which may have attracted them.

This pre-season scouting can account for considerable time and expense; however, it's essential in order to insure a successful shoot. It's nearly impossible to find a productive dove field if you wait until opening day.

Let's now assume you've done your homework; the actual *hunting* part is over, now it's time for the shoot.

If doves are present as you enter the field, watch the direction of their flight after they flush. It may give you some indication of their flyways on that particular day. There are usually a couple of stands in the field that will offer the best shooting opportunities. After having taken your stand, watch for this flight pattern to develop and if you are out of position, move to a spot that will better enable you to intercept the birds.

Try to pick a stand with some cover to break your outline, or build one, but avoid stands at the edge of woods. Birds that fall behind you will be difficult to find, and birds flying from that direction will quite often be out of range before an accurate shot can be made.

To hold lost birds to a minimum, retrieve each downed bird immediately following the shot. Watch the dove hit the ground and keep your eye on the *exact* spot while walking straight to it. If for one reason or another you look away, mark the spot by any nearby recognizable object or go where you think the bird fell and drop a marker. Make every effort to locate each bird you shoot; it's only good sportsmanship to do so. Some fields have been closed to hunting by owners who found birds scattered about following a shoot.

While camouflage clothing is a definite asset (dark or drab is the second best choice) it is movement, not clothing, that most often alerts doves to potential danger. Oncoming doves, especially juvenile birds which usually make up a good part of the opening day kill, will fly straight toward you you it you remain motionless. Follow the flight of the bird by moving your eyes, not your body, and mount your gun *only* when the bird is well within range.

This also necessitates a quicker shot, which is usually more accurate than a mentally calculated one in which you try to estimate the bird's speed and proper lead, while peering out over the gun barrel for several seconds before the bird is within range. It's more natural, like gunning for upland birds or shooting trap or skeet which, by the way, is the *best* method to improve your wing-shooting skills, and in turn harvest more doves.

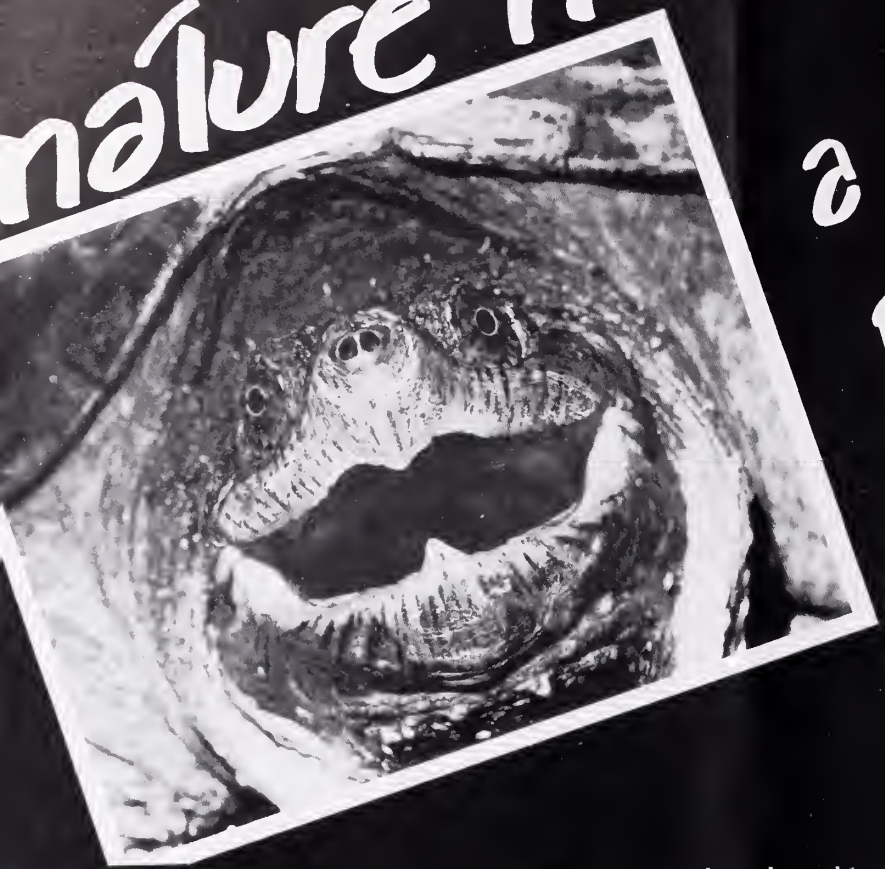
If your party is not large enough to keep the birds from landing and feeding in the field, try walking them up. Frequently, this not only offers the remaining standers an opportunity for shots at the flushed birds, but also may afford the walking hunter a chance for some jump-shooting. If you're doing the flushing and the doves get up out of range, remain motionless. They may turn and fly back toward you.

Opening day is exciting if you're prepared. These tips should improve your shells-shot/birds-bagged ratio.

nature notebook

a collection of photographs

by James Sullivan



Once again, I turned the click beetle on his back and placed him on his mark. As I prodded him with a ballpoint pen, the beetle flattened his legs and antennae along the sides of his body, ready once more to do his act. I began to adjust the light, but heard yet another click and turned just in time to see the beetle crawling under the camera. I had been trying for what seemed like hours to stop him in mid-air. He was clicking, all right, but seldom on cue, and the few times he did, I was so flabbergasted, I couldn't even snap the shutter.

Another click and the beetle this time tried to hide behind the lights. All of this trouble was just to get a picture of an animal from another viewpoint. But as I had found so often before, that different viewpoint may be the most revealing yet.

Last spring I bought a camera. I bought it mainly to record successful fishing and hunting trips and enjoyable times at home. But with the camera I found more: I found a pastime enjoyable and educational in itself. I got satisfying, and often unusual, results in photographing wild creatures.

Still, at times, my patience is sorely tried. Click beetles and birds never pose for a camera. They have their own ideas about what the viewpoint of the photographer should be.

The first photograph that spurred my interest in photographing wildlife was that of a toad. A toad in the garden is usually of only passing and mild interest. That is, until you get down on his level and look him straight in the eye. I put this toad on the front stoop so the sun would be bright on his face. Though he kept insisting that he belonged in the grass and not on the porch, I eventually was able to take four photos by kneeling on the steps below him. Of the exposures, a couple were out of focus, and another generally uninteresting, but the last showed me the toad as I had never seen him before. With his grumpy dictatiorial expression, all that seemed missing was a fat cigar protruding from the side of his mouth.

That series of photographs taught me something. If at all possible, I would never take just one picture, from just one viewpoint, of a given subject. Finished photos taken from different angles could tell me a lot about a situation or subject that, at the time, I didn't notice.

Since I have no telephoto lens for my camera, I have to wait for unusual opportunities. Recently, an indigo bunting had a bout with our picture window and ended up sprawled in a heap on the porch. Hearing the knock, I immediately knew what had happened and ran out two steps ahead of the cat, who also knew immediately what happened. While recuperating, the bunting was essentially captive for photographs from several angles.

But not all birds are so cooperative. When a starling drops down the chimney for a visit, all he can think about is the time he's going to pack his bags. His patience for a photographer is totally lacking. He dislikes close-ups, and always wants his picture taken from below with him perched on a curtain-top or on the assorted paraphernalia hanging on the

walls. A juvenile starling once insisted that the most natural setting for his portrait was atop the mounted head of a pronghorn antelope.

Despite the fact that the procedures are, at times, somewhat trying, I still attempt to get pictures from different angles. We usually see crawling insects, reptiles, and amphibians from above. But why not look at them (with the camera) from the viewpoint of others of their own species? I photograph them face-on or from slightly below, just as I photograph people. As a result of this idea, my photographic excursions usually leave me with grass stains and mud from head to toe, with plenty of scratches from thistles and blackberries.

Finding a snapping turtle the other day, I had to take some pictures. One usually sees snappers with only their eyes and nostrils sticking out of the water, but here was a full-grown snapper on land, with only his hissing jaws sticking out of the mud. Digging him from the muck, I took some shots from above, then, braving up a bit, laid down in the mud in front of him. With the camera as a shield, I slowly moved closer, until, at eight inches, I was able to snap the shutter.

In photographing some animals, I have learned things about their behavior that I may not have noted otherwise. It seems that a wasp took up residence in the rubber handgrip on the right handle of our power mower. For some photographs, I faced the mower in the opposite direction so that the handle had sufficient light on it, and waited for the wasp to return. It came back awhile later and began buzzing around me and around the handle, but was reluctant to enter the hole in the handgrip. Finally it alighted, but ran to the left handgrip and entered, only to emerge post haste. It again buzzed around me, my camera, and the handle, and again alighted and ran into the wrong handle. In turning the mower to the light, I had completely rearranged the landmarks that the wasp normally used to navigate to its chosen home. Not wishing to push my luck (because of the insect's posterior), I turned the mower around to its original position. The wasp this time got the correct hole; I got my photograph.

In photographing wild creatures, one may learn a good deal about their habits. To find them, I have had to learn where to look. To be able to photograph them, I have been forced to learn how to avoid letting my presence interfere with their normal activities. Accordingly, wildlife photography is an extremely good way for the amateur naturalist to become more involved in the natural world he is viewing.

The camera is a means of making permanent visual records of situations with which one is confronted in the field. Not only does it record those things one sees, it may also record previously unnoticed facets. I know that I will continue to crawl face to face with snapping turtles, and push my luck with bees and wasps. I will continue trying to catch click beetles on the upswing, to learn more about their habits and to get yet another photograph from a different viewpoint.

VIPER'S BROOD

A guide to identifying some of Virginia's juvenile snakes.

by Joseph C. Mitchell

What are the chances of coming across a snake in the field? It depends on the time of year and the type of habitat. In general, snakes are most active during the mating season (April-May) and in August and September when baby snakes are hatching from eggs or being born. During the spring, males are seeking females and wander through the habitat more frequently than at other times of the year. In late summer and fall, baby snakes are seeking their first meals and likely shelter for the winter and, in some cases, cover considerable ground in doing so. You are less likely to find snakes in yards, open agricultural lands, and in urban areas than in natural areas such as swamps, river and stream banks, and forests. However, wandering snakes are occasionally found in the former areas and many of these are juveniles, that is, snakes three to 12 inches long, born or hatched that season. Most of the inquiries received at the Game Commission are in the late summer and fall of the year and most of these are about juveniles. Identification of these small snakes can be difficult to the untrained person since offspring of many of our snakes look little like their parents. Many species have offspring that have altogether different patterns and coloration from the adults. This guide is offered to help alleviate some of these identification problems.

Of the 35 snakes species and subspecies in Virginia, 19 (54%) are oviparous (lay eggs), while the remaining 16 (46%) are viviparous (bear young alive). Generally, oviparous snakes mate in April or May, lay anywhere from two to 50 eggs in June or July, and these hatch sometime in August through October. Most viviparous species also mate in the spring but gestation is longer, with birth of the two to 85 offspring coming as early as July or as late as October. (For both types, the number of eggs or young depends on the mother's species and size.) None of Virginia's snakes provide parental care once eggs are laid or young are born, although in several egg-laying species, females may stay with the eggs for a period of time.

Juvenile snakes can fend for themselves once they are free of egg or mother. All snakes have teeth and use them effectively in procuring prey. Some snakes, like the black rat snake and corn snake, can constrict prey from the start; little learning is necessary. Poisonous snakes are able to inject venom at birth and use it to obtain prey. In several species, the juveniles eat different things than the adults do. Young snakes are themselves prey for several bird and mammal species such as owls and hawks, herons, raccoons, and weasels.

In trying to identify snakes, remember never to handle a snake unless you are absolutely sure it is nonpoisonous and then handle it with care since many nonpoisonous species can inflict a wound like a briar scratch. Some people may get a slight reaction (reddening, swelling, local pain) if they are allergic to nonpoisonous snake saliva.

This guide lists snakes less than 12 inches long whose physical characteristics are different from those of the adults of their species. The species are divided into two major groups, poisonous and non-poisonous. Non-poisonous species are further divided according to body patterns.

POISONOUS OR NONPOISONOUS?

Poisonous: Tip of tail sulfur yellow or with a hard, half-moon-shaped structure (button of rattle); belly side of tail with some scales stretching from side to side; vertical pupils in eyes (cat eyes); pit between nostril and eye; enlarged recurved front teeth (fangs).

Nonpoisonous: Without these features.

POISONOUS:

1. *Eastern Cottonmouth* (Agkistrodon piscivorus): *sulfur yellow tail tip; dark brown to reddish-brown crossbands on light brown to pinkish-brown body; crossbands lighter in center than on edges; dark brown, broad band from nostril, through eye, to posterior margin of mouth; will vibrate tail and expose interior of mouth when disturbed; size: 8-11 inches; found in scattered localities in southeastern Virginia.*

2. *Copperhead* (Agkistrodon contortrix): *sulfur yellow tail tip; light pinkish-gray, pale brown with darker brown crossbands that are narrow at the middle of the back and wide on the sides forming an hourglass pattern; may have dark spots between crossbands on sides of belly; thin dark line separates pale lips from darker head; size: 8-9 inches; found statewide in Virginia.*

3. *Timber Rattlesnake* (Crotalus horridus horridus): *has blunt tail with a keratinized, half-moon structure (button) on tip; V-shaped crossbands on grayish body which may be broken on forward part of body; no distinct head markings; size: 8-12 inches; found in mountainous areas of western Virginia.*

NONPOISONOUS

4. *Northern Water Snake* (Natrix sipedon): *usually dark brown to black crossbands on neck and first third or half of body, similarly-colored blotches on last half of body; body color gray or light brown; belly with irregular rows of brown, red or black half moons; often confused with eastern cottonmouth; size: 7-10 inches; found statewide.*

5. *Northern Black Racer* (Coluber constrictor): *juveniles have a row of dark gray to brown to reddish blotches down middle of back; body color of light gray; has small dark spots on sides and belly; no pattern on tail; no eye-mouth stripe; size: 11-13 inches; found statewide.*

6. *Black Rat Snake* (Elaphe obsoleta): *brown to gray blotches on body and tail; pale gray to almost cream white body; dark stripe from eye to rear corner of mouth; body cross-section like loaf of bread; size: 11-16 inches; found statewide.*

7. *Mole Snake* (Lampropeltis calligaster): *small reddish blotches down middle of back on body color of light brown to pinkish tan; spaces between blotches wider than blotches themselves; a red stripe on side of neck and a "Y" blotch of red on top of head; belly may have squarish blotches in irregular pattern; size: 8-10 inches; found statewide.*

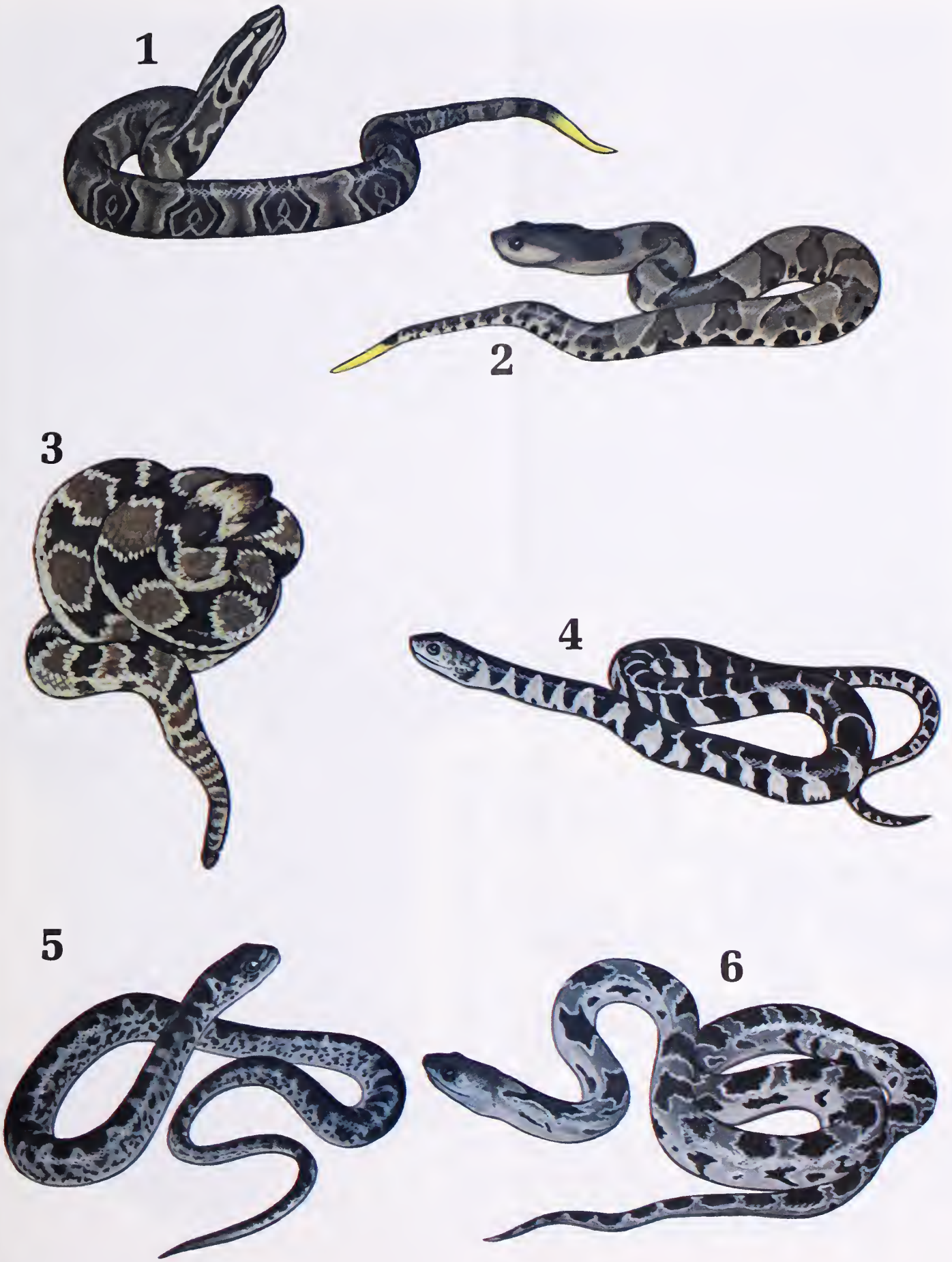
8. *Eastern Milk Snake* (Lampropeltis triangulum triangulum): *red blotches on cream to yellowish body; blotches wider than spaces between them; top of head have a "Y" shaped pattern surrounded by red; belly may have checkerboard pattern of dark brown to red blotches; size: 7-10 inches; occurs in Virginia in foothills of the Blue Ridge Mountains and westward.*

9. *Northern Red-bellied Water Snake* (Natrix erythrogaster): *has a row of dark brown blotches down the back with alternating rows of smaller blotches along each side; ground color pinkish; belly reddish or orange-red; size: 8-12 inches; found in southeast Virginia only.*

10. *Rough Earth Snake* (Virginia striatula): *a uniformly dark gray color above with a pale gray to white band across back of head; belly light gray to cream; has a pointed snout; size: young - 3½-5 inches, adults - 7-11 inches; found in southeast one-third of Virginia.*

11. *Northern Brown Snake* (Storeria dekayi): *a uniformly slate gray to black snake with a yellowish collar across neck; belly yellowish, brownish and unmarked; neck band wider on sides than on top; size: young — 3-5 inches. (Note: the adult is 9-13 inches long, the only adult species in this list that is as small as the juveniles listed here); found statewide.*

12. *Northern Pine Snake* (Pituophis melanoleucus): *a black and white snake with obscure brown to black blotches on front half of body becoming clearly defined in the rear half; blotches may be reddish-brown toward tail; has a pointed snout and may hiss upon capture; body color may be white or pinkish; size: 14-20 inches, larger than the other snakes; has been found only in Alleghany, Augusta, Bath, Craig and Giles counties.*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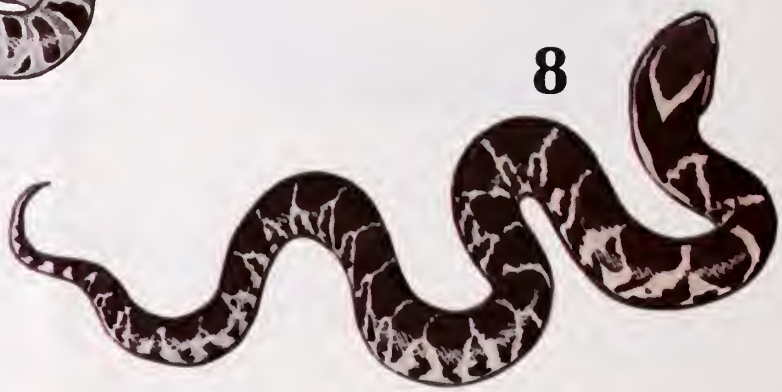


KNUTH

A mist net like this one is used to capture birds for banding (top).
A bird bander (above) gently blows on the feathers of this warbler to check for fat deposits; this helps to determine how soon the bird is likely to migrate.

Bird Banding Basics

by Donald Jewell

We can learn a great deal about birds: their migrating patterns, their flying speeds, their life spans, through banding.

The "chord" is the straight line distance from the shoulder to the tip of longest primary feather; this measurement is sometimes used to determine a bird's sex.

Much of what we know about birds today was learned through field observation. Their nesting and feeding habits have been recorded by bird watchers since the earliest days of civilization. But as man learned more and more from watching birds, there were even more questions left unanswered. To answer questions like "How fast can a barn swallow fly?" or "What is the average life span of a cardinal?" it would be necessary to capture and mark individual birds in some way.

John James Audubon, the famous wildlife artist, is credited with originating this practice. Finding the nest of an eastern phoebe in 1803, he attached a silver thread to the leg of each of the young birds. The following spring, he found that some of the birds he had marked returned to nest in the same area.

By 1920, there were so many different bird-marking projects underway in the United States that the federal government, aware of the value of this research, but recognizing a need for more organized record keeping, took over the supervision of all such operations. The use of numbered metal leg bands, issued by what is today the Fish and Wildlife Service, was then begun. Since then, over 22 million birds have been banded in the United States. Many of these were gamebirds, banded by government employees to help keep track of their numbers, but others were songbirds banded by private citizens licensed by the Fish and Wildlife Service.

While Audubon was lucky enough to find a nest with young, most bird banders today use nets or traps to capture birds for banding. Mist nets are made of nylon mesh stretched over a framework of horizontal support cords called "trammels." When suspended before a background of mixed vegetation and across established flight patterns, birds are unable to see them. When a bird strikes the net, it falls into one of these pockets and is captured.

Traps come in all shapes and sizes. In the majority of these, the bird trips the trap when it enters for some seed or other bait. One of the more commonly-used traps is the Potter trap. Named for its inventor, the Potter trap is often used successfully in capturing ground-feeding birds. As the bird enters the trap, it lights on a treadle, releasing the door. Most birds cannot turn quickly enough to escape as the door drops behind them.

Both nets and traps are checked at regular intervals, never more than a half-hour apart. Captured birds are helpless and unable to escape potential predators. Moreover, while removing a bird from a trap is a simple enough procedure, the longer a bird remains in a mist net, the more entangled it becomes.

Removing a bird from a net requires training and practice, not to mention a certain amount of patience. Once it has been determined from which side of the net the bird has entered, the feet are generally freed first. The legs are grasped close to the bird's body to prevent accidental injury to them should the animal flap about. Next, the wings are freed and finally, the head. Variations to this technique may

be made depending on the situation and the experience of the bander. Larger birds do not become as entangled as smaller birds, and generally can be grasped from behind and lifted out of the net with little difficulty.

Once removed, the bird may be placed in a holding device. This serves to free the bander's hands and also helps to calm the bird. Holding devices range in complexity from brown paper bags to specially-constructed wooden boxes with swinging doors.

Accurate records must be kept for each bird. The first step in the banding process is the identification of the species. In addition to its name, the species' AOU number is also listed. Because common names may change over the years, the American Ornithologists Union has assigned each species a number. For example, number 507 will represent the same species in the future whether the bird is called a Baltimore oriole, northern oriole, or by some other name.

With the bird in hand, the bander next selects a band of appropriate size. Aluminum bands are available in many different sizes, ranging from 1.78mm to 28.50mm in diameter. For the sake of simplicity, the different sizes have been assigned number or combination number and letter codes.

When the proper band has been selected, its number is recorded. Using special pliers, the band is opened, placed around the bird's lower leg, and then closed with a slight pressure, making sure the two ends come together evenly. The bird is now permanently marked for identification.

The bird is next examined for the presence of fat deposits. This helps in determining its migratory status. Just as we might eat a big breakfast before a hard day's work, birds store fat for their long journeys north and south during spring and fall migration. These fat deposits, which are easily seen by gently blowing back the feathers under the wing and on the stomach and lower back, are recorded as 0, Trace, +1, +2, or +3 depending on their size. If a migrating bird is captured and has 0 fat, it has probably just arrived in the area, while one with +2 fat is almost ready to move on.

Determination of the bird's sex can be easy or impossible, depending on the species. In some species, like the cardinal, there is a definite color difference between mature males and females, while in others, like the mockingbird, there are no outward signs to aid the bander. By and large, the sexing as well as aging of birds is something which must be learned as an apprentice bander.

Sometimes, in identifying a particular species or in determining a bird's sex, the wing measurement can be very important. Therefore, each bird's wing is routinely measured as part of the banding process. The length of the wing is measured using a metric ruler along the "chord," that is, the straight line distance from the shoulder to the tip of the longest primary feather. For accuracy, the wing is always measured in its folded, relaxed position.

It is also important to record the weight of the bird. A "triple-beam" balance is most often used and the bird is usually rolled up on a sheet of plastic or other material to restrict its movements during weighing. When this final step is completed, the time is recorded and the bird is released, a little ruffled perhaps, but none the worse for wear. Sometimes, just after its release, a bird will land on a nearby perch and peck at the band several times, but it quickly becomes used to its new identification bracelet.

A daily record sheet is kept by the bander on which he or she lists all of the data obtained from the procedures previously described. A separate sheet is maintained for "returns." A return is a bird captured which already has a band. The same information is recorded for a return as for a bird which is being banded for the first time.

At the end of each day, after the traps have been closed and the nets furled, the information from these worksheets is transferred to a large notebook arranged by band number. If there were any returns that day, the bander goes through his old records to determine if he had banded the bird previously, or if the number indicates that the bird had been banded by someone else.

These records are later copied onto a standardized form and mailed to the Banding Office housed at the Patuxent Wildlife Research Center near Washington, D. C. There, banding records from all over the United States are tabulated and analyzed with the aid of computers. Migration patterns are traced using information obtained from these records. Regional abundance and survival rates of different species can also be estimated.

Information is also obtained from non-banders who, upon finding a dead bird with a band, report the number and location of the find to the Fish and Wildlife Service. A "Certificate of Appreciation" is sent to those who mail in a band, along with some information on the bird. If you should find a dead bird with a band, remove the band and send it to: Bird Banding Office, Patuxent Wildlife Research Center, U.S. Fish and Wildlife Service, Laurel, Maryland 20810. Attached to the band should be a piece of paper with the following information: (1) your name and address; (2) all letters and numbers as they appear on the band; (3) the date you found the band; (4) the place you found the band; (5) how you came about finding the band.

But dead birds with bands are not found that often, nor are banded birds recaptured by other banders with any regularity. This makes the accumulation of reliable data a slow process, but it also adds to the excitement of the bander when one of the birds that he banded is later recovered. When this occurs, the Banding Office notifies the bander through the mail with a card listing, among other things, the date and place the bird was encountered, how it was obtained and by whom, and its present condition. Much of this information is coded to save space.

Looking through a bander's collection of recovery cards can provide a firsthand glimpse into the life histories of many birds. Take for instance, one dark-eyed junco (Band #1360-31059). Banded as an adult just outside Baltimore on April 7, 1976, it was recovered thirteen days later near Ogunquit, Maine — a distance of more than 400 miles away as the crow flies, or in this case as the junco flies. This would mean that until it flew into some object, which is listed as how it was obtained, this small bird was averaging at least thirty miles a day if not many more on its way north to its breeding grounds. Incidentally, this particular bird was captured alive and later released with the band still on it, so someday it may be recovered again and we can learn more about its travels.

Another individual bird, a blue jay (Band #592-46319), is not as interesting for the amount of distance it travelled, but for the number of years it survived. Banded near Baltimore in 1962 as an adult, it was not recovered until 1974 when it was brought in dead by a cat. This bird had lived at least thirteen years, perhaps even more: a ripe old age for a songbird in its natural environment.

This is just some of the fascinating information which can be obtained by banding. If you would like to learn more about the process or even watch a bird-banding demonstration, contact the Eastern Bird Banding Association, RD 1,35 Logan Hill Road, Candor, NY 13743. They should be able to put you in contact with a bander in your area.

SAM

The tale of a formidable largemouth and his would—be captor

by Donald Rea Bibb

One beautiful morning in July, I went fishing for largemouth bass in a small lake near Charlottesville. I had not fished this lake for about 10 years because I had been living in California. This was my vacation, and I had one week to do nothing but fish, sleep, and enjoy the beauty of my hometown.

The morning was beautiful, and it was a perfect day for fishing. There was no wind, and there wasn't a cloud in the sky. My mother fixed me some Virginia country ham and four fresh eggs, and I was on my way. She knew she wouldn't see me again until nightfall.

When I reached the spot, my heart was pounding because the lake was as smooth as glass and as clear as crystal. The silence was only broken by the chirping of birds. As I approached the lake, small bass and perch were jumping everywhere. The beauty of the lake and the serenity of the morning gave me a feeling that I know many men who are true fishermen have experienced before.

As I began tying my repapla lure to my line, I heard an explosion in the water, causing ripples that looked like waves. Minnows were jumping everywhere. I remember thinking that a splash like that couldn't have been made by a bass.

I threw my lure near the big stump where the splash came from. Using the manufacturer's directions (which I don't often follow), I let the lure set for about 30 seconds, waiting any moment for the bass of my dreams to crash out of the water and take my offering. "Come on, come on, hit it!" I retrieved my lure slowly, giving quick jerks, thinking if I let the lure stand still again the bass might strike. Again I paused, letting the tiny ripples fade away from the lure. I retrieved my lure again and at this time, it was about three feet from the bank.

Glancing down at the lure, I saw something that would give any true bass fisherman pause: there in the water looking at me and my lure was the biggest bass I have ever seen in my life, and I have seen and caught some big ones. I froze. The bass was looking at me as if to say, "What are you doing here this early in the morning?" I don't know how my brain had the impulse to give signals to my hands, but I gave the lure another jerk, thinking the lunker would pounce on it.

The bass with eyes as big as large marbles and a back that looked six inches across gave me one last look and swam slowly back into the depths of the lake.

I slowly sat down on the bank thinking that maybe I was still at home in my bed and all of this was a dream. Getting my spirits back, I began to fish again. I threw my lure in the same spot. I let it set, hoping that my dream bass would come back. If the lunker did take the lure, I didn't know if I could hold him or not because I only had a six-pound test line on my reel, and I knew that this bass was well over 10 pounds. I retrieved the lure all the way to the bank within three feet, and again, that bass was back staring at me. I froze, and the bass swam around my lure as if he were going to tear it apart. Then with a mighty flick of his tail, he was gone, leaving only spirals in the water.

After stopping to collect myself, I began to fish again, throwing the lure in the same spot, letting it rest and then retrieving it until finally, it was close to the bank. I looked down, but the big bass, whom I dubbed "Sam," wasn't there this time. Somehow I was glad because I couldn't have taken that bass making a fool out of me again. I cast the lure again and again, but no sign of the bass. I tried different lures without results.

I fished the area for the rest of the afternoon, catching some small bass and hoping the lunker that had been haunting me all day would hit my lure.

When I got home I didn't tell anyone about my experience, not even my two brothers who are supposed to be among the best fishermen in Charlottesville. If I had caught this bass, it would be an excellent opportunity to show them who was really the bass king, and would settle our arguments. That night, I made a promise to myself that I was going to catch that bass, no matter what.

The next morning, I was up a little earlier than usual. I ate breakfast and took off for town to the sporting goods store. I bought a fly rod, three dozen minnows, $16-worth of different lures, and a 10-pound test line to replace the six-pound line that I had on my reel.

Within 35 minutes, I was on the bank of the lake. I quickly rigged up one rod with a cork and a hook. I placed the cork up from the hook about three feet and found the biggest shiner I could in my minnow bucket so it would give me plenty of action. I knew that only a big bass could take a minnow like that.

I threw the minnow in the same spot where I had seen the big splash yesterday. On my other rod, I used my old faithful, the repapla lure. If these two things didn't work, I was going to try my fly rod.

I threw the repapla lure close to the cork, I let it set for a little while and then began to retrieve it. All of a sudden I saw a white belly come out of the water, bending my rod nearly double. I thought I had caught the demon bass that had made a fool out of me. I slowly played the bass up to the bank, then, looking down into the water at the bass, I knew it wasn't the fish I had seen yesterday.

I netted the bass which weighed around three pounds. It was a beautiful fish but nothing like the one I had sworn to catch. While I was tying the fish to the stringer, I happened to look up for my cork, but the cork was gone and my other rod was slowly sliding off the bank into the lake. I made a flying leap on my rod and caught it before it went into the water. Lying on my stomach, I gave the rod a pull which snapped my line about three feet above the cork. It felt like it had lead on the other end.

I got to my feet watching the cork being pulled all over the lake. Sometimes it would disappear and then come back up about 10 yards from where it went under. This had to be the bass that I had seen yesterday, because no small fish could snap a 10-pound test line like that.

I swam after the cork, feeling rather foolish. Finally, I caught up with it. I got within three feet of it, but away it went again. It went under and appeared again about 30 feet from where I was. Slowly I dog-paddled toward it again, and I got within two feet of it. The cork slowly began to move away from me. I made a quick jump for it and grabbed the line. It snapped like a piece of thread, and there was the cork bobbing in the water without any movement.

I was angry and tired as I got to the bank. I managed to pull my exhausted body from the water and sat down on the bank wondering what to do next. After resting for a moment, I checked my other bass, but in all the excitement, it had gotten away, too — with my stringer — because I hadn't tied it tight enough.

I should have quit on that bass, but I decided not to let Sam beat me. The next morning I was at the lake bright and early. I walked to the place where I thought he might be, lugging my minnow bucket, rods, net, and other provisions. To my surprise, I had a visitor. An old woman with a cane pole was in my spot. As I walked up to her I asked her if she caught anything. Without saying a word she reached in the water with both hands and pulled out a "hawg" that weighed at least 11 pounds or more. It had a hook in its mouth.

This is the third and final segment of Ruskin Freer and Frank Hanenkrat's series on the Central Blue Ridge. Part I, The Geology of the Central Blue Ridge, *appeared in July 1979; Part II,* The Flora of the Central Blue Ridge, *was in the September 1979 issue. Part III gives an overview of the animals you're likely to see when you travel to the beautiful Blue Ridge in central Virginia.*

The Central Blue Ridge

Part III: The Fauna of the Blue Ridge

by Ruskin S. Freer and Frank T. Hanenkrat

The animal life of the central Blue Ridge is strongly influenced by the extensive tracts of uninterrupted forest and the increased elevation, both of which obviously distinguish it from the more open lowland areas to the east and west. The faunal distribution which characterized the region at the time of European settlement was seriously disrupted by timbering, burning, and hunting and trapping. Today, however, with much of the forestation restored, some animal species which had become scarce or unknown are beginning to re-establish themselves. This is due in large part to the National Forest Service, which manages timbering activities with an eye to providing a balanced habitat for animal life; and to the Blue Ridge Parkway Administration, which does not allow hunting or trapping on its holdings and provides a relatively undisturbed haven for wildlife.

Many of the mammals in the central Virginia Blue Ridge are the same as those found in the nearby forested lowlands. A driver along the Parkway in the summer months is likely to see numerous groundhogs who have found that the roadbanks provide ideal den sites as well as a ready food supply in the form of lush vegetation. A short walk into the forest at almost any point is likely to elicit the shrill whistles of ground squirrels or chipmunks, who are probably the most abundant mammal species in the area.

The eastern gray squirrel is common; the eastern red, fox, and flying squirrels rare to extremely rare. Other common small mammals are the red and gray fox, raccoon, opossum, striped skunk, cottontail rabbit, and numerous species of nocturnal and seldom-seen mice, rats, shrews, and voles. White-tailed deer are so abundant that they are considered a nuisance by farmers and orchardists along the base of the mountains because the deer come down at night to feet on crops, often doing extensive damage by browsing the buds of apple trees.

Some mammal species in the central Blue Ridge are rare or unknown in the surrounding areas, and may even be rare in the higher, forested elevations. In 1917, an effort was made to establish an elk herd by transplanting western stock. The herd was allowed to gradually dwindle, though remnant animals were known until the early 1970's. No elk have been sighted in recent years, and the species is presumed extinct in the region. Probable, but uncertain, species in the area are the northern snowshoe hare and the porcupine; both were known at the time of European settlement but were believed extinct here by the early 20th century. In recent years, however, unconfirmed but fairly reliable sightings of both species have been reported. A civet cat, or spotted skunk, was recently photographed in the area, but the current status of this species in the central Virginia Blue Ridge is presently unknown.

Among the larger carnivores, the timber wolf, which once inhabited most of North America, is now extinct in the Blue Ridge, as it sadly is over most of the continent. The bobcat, a common animal, is today present in the area. And the mountain lion, long considered extinct, has often been sighted by Parkway rangers and others, but no lions have ever been captured or photographed. Both species of cats are extremely shy and pose no significant threat to humans or livestock in the area. The black bear population is dense in park areas and stable in other parts of the central Blue Ridge.

Bird life is particularly abundant along the crest of the range, and a spring visitor is likely to find birding a heady experience indeed. Standing amidst a profusion of spring wildflowers, he or she will be constantly torn between looking down at the flowers and up to the treetops at the astonishing numbers of migrating birds, particularly warblers, that use the mountain chain as a flyway when the right weather conditions prevail. Over 200 species of birds have been sighted in the Peaks of Otter area, and undoubtedly most of these could be seen in similar habitats along much of the Parkway.

Many species of spring migrants pass onward to northern nesting grounds; however, a few species like the near-Canadian-zone regions at higher elevations well enough to stay and nest. Vesper sparrows have nested in the fields near Big Spy rock at milepost 26.4; eastern winter wrens have presumably nested on Apple Orchard between mileposts 76.5 and 78.4, along the Appalachian trail on the northwestern slope. Nesting veeries can be heard singing at dawn and dusk along the crest of Apple Orchard throughout the spring and early summer. Other northern species nesting in surrounding areas include the yellow-bellied sapsucker, the red-breasted nuthatch, and the least flycatcher.

Other rare or interesting nesters are the blue-winged, golden-winged, and their hybrid Brewster's and (presumably) Lawrence's warblers in an ice-damaged area of Pine Mountain reached via an unpaved road leading west from the Sunset Field Overlook near milepost 78.4. The willow flycatcher is found in Goose Creek Valley, reached by way of state road 695 on the east slope of the Blue Ridge. Black vultures are seen in the area in the summer, as are turkey vultures year-round.

A birding event of considerable interest is the annual autumn hawk watch that takes place on the Parkway during late September and October. On weekends, crowds of visitors gather at lookouts between mileposts 92 and 98 to watch thousands of migrating raptors drift southward along the natural flyway provided by the mountain chains. Species include broad-winged, red-tailed, red-shouldered, and marsh hawks, sharp-shinned, cooper's, and goshawks, peregrines, merlins, kestrals, ospreys, and golden and bald eagles. Accurate records are kept by volunteers working for the Hawk Migration Association of North America, an organization devoted to raptor study and preservation.

Reptiles of several species are occasional in the central Virginia Blue Ridge, attracted no doubt by the abundance of natural dens and the small mammals and birds. Black snakes are probably the most frequently encountered spe-

photos by Carl "Spike" Knuth

Blackwidow Spider

photo by Jack Raybourne

Black Bear

Red-bellied Woodpecker

A wide range of wildlife can be seen by the wary observer.

cies. Two poisonous species — the timber rattler and the copperhead — are sometimes seen. During cool nights in spring and autumn, snakes frequently come out onto the Parkway road to bask in the heat absorbed by the blacktop during the day. Pregnant females will also seek the heat even during the day in late summer, just before giving birth. A number of other harmless species can be found in the area, as well as other reptiles and amphibians, most often in the damp areas near ponds or streams. Numbers of various turtles, terrapins, lizards, salamanders, toads, and frogs range from abundant to rare.

Insects and spiders add some spice and some venom. The summer months see a variety of butterflies and moths as well as clouds of gnats. By midsummer, a careful observer will find much damage to vegetation by insects, including many leaves beautifully scrolled by tiny leaf-borers. Black widow spiders are occasionally encountered in webs suspended beneath protective rock ledges, logs, or stumps. Thankfully, the region is free of the more troublesome insects found to the north and south, such as deer flies and fire ants.

The many natural phenomena in the central Virginia Blue Ridge are wondrous and deserving of study. They lead one's imagination to questions about the history of the earth, its major geological events, and the resulting effects on the earth's marvelous and ever-changing living things.

Two inhabitants of the central Blue Ridge: the wild turkey and the red-tailed hawk.

PERMISSION TO HUNT

by George Huber

About a week before open season was to begin, we were looking for places to hunt rabbit. A woman came to the door in answer to our knock and we asked if her husband were home.

He wasn't home, she answered, then asked if she could help. We introduced ourselves, and explained that we wanted to ask her husband's permission to hunt on their place once or twice during the season.

"You don't have to ask my husband's permission for that," she replied. "I'll give you permission to hunt all the rabbits you want any time you want. And the first thing I want you to do," she said, pointing toward her kitchen garden, "is to get all the rabbits out of that garden."

That was only one of the episodes from our annual preseason quest for hunting privileges. We go out a week or two in advance to scout likely-looking rabbit country, then try to get permission to hunt. In a day or two of traveling around, we can line up a dozen or more places in our home county of Madison and in nearby sections of Culpeper and Rappahannock. We get some "no's," as you would expect, but we also get plenty of "okay's." It definitely beats driving up on the morning we want to hunt and having to search for someone to give us permission.

We always explain that we are responsible hunters and that we do not intend to clean out all their rabbits or birds. We promise to close all gates and to be careful about climbing wire fences. We also ask if they want a rabbit or two when we are finished hunting. It works at least 50 percent of the time, and before the season opens we have lined up plenty of places to hunt.

You can never be sure what a person is going to answer. We have been surprised by some of the turndowns we have received, and equally surprised by some of the affirmative answers we've gotten. But we never argue or press the issue, whatever the situation.

At one farm where we had hunted for two years and where we supposed that a new grant would be routine, we were told, "It don't suit me to have anybody hunt here any more." No reason was given.

At another place where an absentee owner pastured a dozen or two horses, we figured it would be a waste of time even to ask, but we went through the motions anyway when we caught up with the owner. He surprised us with a hearty okay, about as enthusiastic a welcome as we received anywhere. "Anytime, go ahead and hunt all you want," he said. "Don't bother even to check in with Joe (his handyman-groom) at the barn. I'll tell him it's all right for you fellows to go back in there."

There was another absentee owner of a very promising farm we never could catch on the place, so after several misses we wrote him a letter explaining ourselves. We enclosed a self-addressed, stamped envelope for his reply and included the usual form for him to sign allowing us to hunt during the legal open season. He got back to us eventually, returning the signed form granting us permission, and adding emphatically at the bottom of the form, "Permission granted to hunt groundhogs any time."

On the subject of groundhogs, there was one farm we had hunted regularly, and when we went back before the season opened to get what we expected would be the usual welcome, the lady of the house apologetically turned us down.

"The Jenkins boys have been coming up here all summer shooting groundhogs for me," she said. "They must have cleaned out 50 or more. They did such a nice job of it that I was sort of thinking of letting them have the hunting here this season." That was reasonable enough, and my buddy and I went away thinking that maybe we should do a little more groundhog hunting ourselves during the summer at selected places.

The matter didn't end there, however. We ran into the Jenkins boys and found out they were not planning to go rabbit or bird hunting on the place, that their interests were in groundhog marksmanship. We went back to the farm with that information and readily received permission to go after rabbits.

We came across a not-too-long-abandoned farm in Culpeper County that appeared to be great rabbit country: grown up enough to provide plenty of cover but not so grown up that we couldn't see the beagles or rabbits. We knocked at a new-looking brick rambler down the lane, and the lady who came to the door said her husband would be back in about 15 minutes. She offered us a cup of coffee while we waited for him.

Three cups of coffee and and hour later, the husband came in. We had a couple of beers with him and talked for another hour while he explained that he was new there. He was from the city and didn't know a thing about hunting. He said it was all right for us to hunt though, so the two hours of talking and all that coffee and beer were worth it, or so we thought. As we were leaving, we wanted to get everything straight, so asked him just what the boundaries of his land were.

"From that gatepost there," he said, pointing 50 feet up the lane, "over to the end of the garden, along that fence line and 10 feet the other side of the road."

The boundaries he pointed out didn't emcompass half an acre! There was no room to hunt anything. The abandoned farm belonged to a man living in Culpeper, and he reserved it for his own hunting!

Still another farm we wanted to hunt belonged to another man living in town, and the man who rented the place knew nothing about whether hunting was allowed or not. We went to town to look up the owner, but were told by his teenage son that his dad was away for a week or ten days. We didn't want to make a return visit, so asked the son if he thought his dad would mind if we hunted. He said that his dad hadn't mentioned it pro or con, so he supposed it was all right to go ahead and hunt.

The problem was, we explained, that the land was posted, so *written* permission was needed. "No trouble," he said after some thought. "Just give me the card and I'll sign it."

Finally, there was a nice estate belonging to a retired couple from New England. It was well known that no hunting was allowed there; the husband was ill and had been bedridden for a year or more. We decided to give it a try anyway, and asked the man's wife if we could hunt for just one day during the season. We said we would hunt well away from the house on the other side of the ridge, and that no one would know we were on the place.

She thought that over for a moment, and came back with her own proposal. We could hunt one day only, and we were to hunt, not away from the house, but near it, and were to pick a warm day for the hunt. That way, she could open the windows in her husband's room and he could hear the hounds running.

It Appears to Me

by Curly

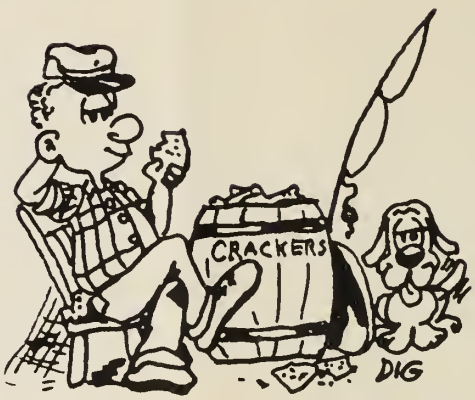
. . .A PERSON OUGHT TO HAVE ONE

Now that the school bells are ringing again, or will soon be, I need to talk to those of you who are teachers. Some of you may be familiar with the National Colonial Farm which is located in Accokeek, Maryland. Now, that really isn't as far away as it may seem at first blush. Actually, it is located directly across the Potomac River from Mount Vernon on the spot that George Washington so enjoyed viewing from his home.

The National Colonial Farm is a "recreated historical living farm museum . . . a tobacco plantation representative of a middle-class, eighteenth-century family living in tidewater Maryland." It is administered by the Accokeek Foundation, Inc., in cooperation with the National Park Service and is open to the public each day except Monday. School groups, through prearrangement scheduling, can tour the facility and benefit from the concentrated interpretive programs free of charge. To assist educators, the farm folks have developed a Teachers Guide to The Farm which is also free, available upon request.

Judy Anna Allen, author of the guide, has stated in her foreword, "Students visiting the National Colonial Farm are provided an opportunity to experience the living history of Colonial American life in a real, first-hand way. Everyday life of a typical modest tobacco plantation is the emphasis of the farm. Colonially-costumed, historically-knowledgeable guides lead the student through the farm facility and, in a sense, into the living history of mid-eighteenth century America. In essence, the classroom curriculum is brought to life. Tours can be individualized if requested in advance and particular aspects of colonial life (companion planting, wool processing, for example) can be given special attention." Remember, now, this is free and, believe me, it is well worth your while to investigate the potential. For further information, write to National Colonial Farms, 3400 Bryan Point Road, Accokeek, Maryland 20607.

There is a definite feel to the weather



at this time of the year that makes me think about getting my sweaters out of storage and sizing up the woodpile. I reckon a body should do more than think about it and that is just what the good people down at the U.S. Department of Energy have done. They have been publishing "The Energy Consumer" for the benefit of all of us. Subscriptions to the publications are free, so drop them a line and request "The Energy Consumer," Department of Energy, Office of Consumer Affairs, Room 8 G082, Washington, D. C. 20585.

While we are on the subject of energy, it would be a shame not to mention another publication which is also free and a real dandy. "The Home Energy-Saving Book" published by the Shell Oil Company is a *Readers Digest*-size seven-pager that is most useful. It is available from participating dealers or from Shell Answer Books, P.O. Box 61609, Houston, Texas.

. . .FOR YOUR BOOKSHELF

In the introduction of a new book that I have run across, the authors have really "hit the target" on the subject of the trials and tribulations people encounter while trying to open shellfish. "The Craft of Dismantling a Crab" begins thusly: "More blood has probably been shed opening clams and oysters than during a small war. At one well-attended oyster-eat (one which sports a local band and sawdust on the floor) there may be two dozen accidental stabbings as compared to one intentional. However, by following the illustrations and instructions in this book, you should be able to open the most obstinate of shellfish and remain completely unscathed. Besides freeing you of the worry about whether you've had your tetanus booster shot, this guide shows you how to get every bit of food from shellfish. Waitresses report horror stories of customers who miss eating tails of Maine lobsters or the claws of blue crabs. Seafood has become too scarce and expensive to waste. Nothing should be lost, but to accomplish this goal, the opening of shellfish has to become a craft. And the greatest challenge is the blue crab. Those of us who buy crabmeat at the store, cook it and then spend some time either spitting out or removing into a napkin (depending on your company) bits of shell, realize that the craft of dismantling a blue crab is known by few people." *The Craft of Dismantling a Crab* was written by Robert H. Robinson and Daniel G. Coston, Jr. The book is designed to lay flat on your work shelf, has ingenious instructions for safely conducting this most hazardous occupation and sells for $6.20 postpaid from EPM Publications, McLean, Virginia 22101.

It really isn't a book but, nevertheless, I think that you would want to know about a publication which outlines the bike routes for the Washington Metropolitan area. Compiled by the Metropolitan Washington Council of Governments, the publication sells for $2.25 per copy and is available from the Massey Building in Fairfax and all governmental substations. "The map includes a comprehensive legend, which defines signed bikeways, future routes, other suggested route segments included in the East Coast Bicycle Trail and locations of Metro bike lockers and racks. What with the renewed interest in peddle power, this little gem might be just what you have been looking for."

. . .AND THEN

It never ceases to sicken me when I see an unthinking and uncaring individual empty the car ashtray in a parking lot. I reckon it is about time for all of us to stand up and be counted by letting these (whatevertheyare) know how we feel about their actions.

Growing Up Outdoors

by Sarah Bartenstein

People Outdoors

What is a game warden?

Virginia Wildlife magazine is produced by some people at the Virginia Commission of Game and Inland Fisheries (or Game Commission, as it is called for short). They are part of the education division. There is another division at the Game Commission that deals with law enforcement. The people who enforce Virginia's laws dealing with fish, game, and boats are called *game wardens.** What does a game warden do?

First, a game warden enforces the law. This means travelling throughout his or her jurisdiction*, either on foot or by car, to check the licenses of hunters and fishermen and to make sure that those people are only hunting the animals that they are allowed to hunt. Hunters and fishermen are allowed to take only those animals and fish that are in season. For instance, there is a trout season that starts on a certain day and ends on a certain day. If you are trout fishing on a day that is not during the trout season, you are breaking the law. Also, there are limits on the numbers of animals or fish you can take. (The numbers are different for each type of animal.) A game warden makes sure that you do not take more than the legal limit. This protects wildlife. So, you might call a game warden a "conservation officer."

Although a game warden's work is often dangerous, because he or she must make arrests and summons violators to court — and sometimes lawbreakers resist being apprehended — a game warden would tell you that most people are cooperative, law-abiding citizens who want to protect Virginia's resources. No one should take more than his or her share or jeopardize wildlife for the rest of us. That's why we have game and fish laws.

Game wardens also enforce laws that have to do with your safety, like boating safety. They check to make sure that your boat has the right equipment and that you are operating it safely.

Wardens are also concerned with hunter safety, teaching sportsmen and women the proper ways to handle a gun and how to conduct themselves in the woods so that they do not get hurt — and no one else gets hurt. Wardens participate in educating the citizens of Virginia through the Game Commission's Hunter Safety Education Program, as well as by speaking at schools, camps, fairs, scout troop meetings, and other groups and events. Education is a big part of a game warden's job. Some have appeared on television and in educational films to teach us more about wildlife, the outdoors, and safety.

Each county in our state has at least one game warden; your county has one. If you ever have the opportunity to meet one of your game wardens, remember that he or she can teach you a lot, and performs a great service to your community. The game warden is a friend to wildlife, and to you!

***New Words:**

jurisdiction (say joor-is-DIK-shun): a territory or area where someone has authority or control. A game warden's *jurisdiction* is the area — the state of Virginia — where he or she enforces the game and fish laws.

warden: one having care or charge of something; *synonyms:* guardian, keeper.

Your Turn

This month, Stacy Smallwood of Winchester tells us about the camping trip she took with her mother and grandparents. Stacy, who is 12 years old, will receive a free, one-year subscription to Virginia Wildlife.

It was on the Shenandoah River where my mom, my grandparents and I went on a camping trip.

After setting everything up, we got out the fishing poles and we fished. We caught about eight perch.

We got the campfire going and we ate hamburgers and hotdogs, and ice tea to drink.

At about 10:00 p.m. my grandmother and I were in the tent talking when my grandfather said that the car was stuck in the mud. "Oh no!" my grandmother said. My grandfather was out trying to get someone to stop. He finally did and they rode to the gas station. He rode back in the wrecker.

When the two men were lifting the car out you could see it slowly rising. It was kind of fascinating to see.

Everyone went to sleep later but me. I layed there and listened to the crickets and bullfrogs. And if you listened really close you could hear the fish splashing in the water.

The next day we went exploring and we fished some more. We caught about a half a dozen fish that day.

We roasted marshmallows that night. Afterwards we went to bed and I fell asleep a lot more quickly than the night before.

We packed up and came home the next day. It was great fun.

A LUMBER COMPANY FOR THE BIRDS

For a Waverly, Virginia company, no obstacles were too great to insure the well-being of a turkey hen and her eggs.

by Francis N. Satterlee

Usually, when someone or something is described as being "for the birds," the phrase is meant in a demeaning manner. Recent events in southside Virginia have, very happily, proved otherwise.

Gray Lumber Company of Waverly is a family-owned organization which is currently being operated by fifth generation descendants of its 1884 founders. Not long ago, during a routine logging operation in Sussex County, Charles Eanes, veteran logging superintendent for Gray, discovered that his crew, or "deck," was about to "invade" the nesting area of a single hen turkey.

A hen turkey had been seen in the vicinity of the cutting operation, but no one knew that she was actually nesting until one of the crew came eyeball to eyeball with her as he was about to cut down a tree. Momma Turkey was not more than 10 feet from the tree, staring defiantly at the logger as he worked and budging not one inch from her position on 12 eggs.

Superintendent Eanes, upon learning of this development, made a momentous decision: the company would move the deck in deference to the bird.

This sort of move is no small matter: a deck consists of about 15 workers, a crane for loading logs, a bulldozer, two skidder tractors, pick-up trucks, supply vehicles and numerous other pieces of equipment required to keep the operation going.

But move it they did, believing that the potential turkey population represented on that nest was just too valuable to disturb. Examination of the nest a short time later revealed that 10 of the 12 eggs had hatched and the hen and her brood had departed. Some 90 employees of Gray Lumber Company were downright pleased that "the whole thing was just for the birds."

Equipment like this — part of a "deck" in a logging operation — was moved to accomodate the turkey family (bottom).
Charles Eanes, logging superintendent for the company was responsible for the unusual decision (left).
Ten of the twelve eggs hatched (below).

Bounty of a River

The celebrated Shenandoah provides year-round pleasure for hunters, fishermen, and nature lovers.

by Gerald Almy

Spring and summer bring an abundance of trout, bass, catfish, and many others to fill your creel (left).
The winter shoreline affords hunters the opportunity to bag a wild turkey for a holiday feast. January waters are good for carp and other fish-gigging (above).
Shoreline trees hold unbelievable numbers of squirrels for hunters to take in the fall (right).

There are doubtless a few people who know and love a river without engaging in any other activity than visiting and admiring it. There are untold millions who neither know nor care about rivers, having abandoned their roots in the soil and water for more "civilized" settings of asphalt and concrete. And there are the active outdoorsmen and women who come to know and love rivers by seeking the fish in them, the fowl on them, and the animals along the banks —the creatures that breathe life into a river.

Though the non-hunter and non-fisherman may think that we in the latter category simply "use" rivers because they harbor the fish and game we seek, we know differently. Fish are found in stillwater lakes, game in fields and forests far from water, but seldom does the devoted river fan derive as much satisfaction in pursuing his quarry in such environs. For the rivers themselves are an integral part of the charm and allure of hunting and fishing on them; the pleasure of being on, in, or along the banks of a flowing stream provides half the satisfaction.

Each Old Dominion river has its own unique character. From the clear, mountain trout waters of the west, to the log-jammed, acid-black tidal rivers of the east, the variety is immense. Though I've floated many streams between these two extremes, the river with which I am on the most intimate terms (and on whose banks I live) is the fabled Shenandoah, which winds its way northeast, straddling the Massanutten Range, then paralleling the Blue Ridge, before emptying into the Potomac at Harper's Ferry.

The bounty of the Shenandoah is a cornucopia of fish, game and non-game animals, songbirds, waterfowl, and scenic beauty. Each season has its riches, and it's the outdoorsman who taps them most fully.

To the uninitiated, the river may seem bleak and foreboding at the year's inception in January. Trees are leafless and gray, the river itself dark and biting cold. The bottom rocks are carpeted with thick layers of autumn's leaves, which turn black with decay after tumbling into the water.

But January is a month with lively sporting possibilities on the Shenandoah. A whole month of open season on squirrels remains to occupy the float hunter, and ducks, too, are in season for a few weeks, stirring the blood of camouflaged drifters.

For the hearty in sprit, the frigid January waters provide prime fish-gigging delights. Suckers, carp, and fallfish are the legal game, and ghosting across the flats with spear in hand is an activity you won't soon forget — whether you love it or hate it.

By winter's end, gigging may be growing old, but the rod and reel angler can begin oiling up his gear in anticipation of coming sport. Sun-drenched March days offer the beginnings of smallmouth activity for the patient angler who fishes deep and slowly with live bait or jigs. With luck, a fat bronzeback may engulf the bait. If not, at least the silver-sided fallfish will take the kinks out of neglected fish-fighting muscles with his early acrobatics.

April is the month of trout for thousands of Virginia anglers, and Shenandoah devotees concur. The headwaters of both the north and south forks are stocked with brooks, browns, and rainbows for the magic opening day, when droves of anglers descend on the rivers in hopes of enticing a coldwater treasure to warm their spirits. It is at 12 noon, the first Saturday in April — a ritual that repeats itself every year.

By May, smallmouths are hitting as fast as ever. Lean appetites piqued from long winter months of semi-dormancy, they bite with a frenzy only matched by fall's feeding orgies. Accompanying them are scrappy panfish that come in untold numbers and respectable sizes. The rockbass, the bluegill, the redbreast sunfish: all provide fast, rod-bending sport for the spinner, worm, and fly fisherman.

The hot summer months that often prove so desultory and lackluster for lake fishermen are a pure delight for the Shenandoah angler. Water temperatures stay quite reasonable in the river during June, July, and August, rarely broaching the 80-degree mark. If the angler respects the heightened skittishness of his quarry due to the lower water conditions, fine bronzeback fishing can be had all summer long. Using light lines that test two to four pounds, tiny lures, small natural baits, or delicate flies, banner catches are made by dedicated smallmouth hunters during the "dog days" of summer.

And if one tires of this sport, he may take up a trout-sized fly outfit, grab a handful of cork poppers and rubber spiders, and plop his bugs along shaded shoreline cover with a delicate "splat." Frisky bream will nab the offering until the sun sinks in a glow of orange in the west.

But even as the river turns black with nightfall, the sportsman readies his gear for yet another intriguing pastime. Already his quarry can be heard bellowing its sweet music as he downs a last bite of dinner and settles by the riverside fire with a mug of coffee to fortify himself for an evening of frog gigging.

As he poles down a flat stretch of river, the light beam wanders along the shore in search of the telltale glowing eyes, the patch of white skin on the bullfrog's throat. He does not find many, but enough to breathe life into a sultry summer night. And they are giants, always, these river frogs; not like the tiddlers found on so many ponds.

If sleep does not demand its ration of his life now, the river enthusiast can stretch his activities out right through the gray, bewitching hour of dawn. It is catfishing time. The bait casting rods are taken out, chicken livers draped on blued steel hooks and flung out into the inky darkness. Propping the crude rods on forked sticks, the angler sits back and sips coffee till dawn. The night air is filled with the tales of bygone lunkers. Summer is indeed a rich season for the Shenandoah sportsman.

But fall does not symbolize a time of death and decay. Though leaves may change colors and drift loose from tightening branches while snakes slither into their winter homes, fall signals a heightening of activity for the outdoorsman. The crisp air instills new vitality in him and in the creatures he pursues and loves.

Fishing is superb. The bronzebacks seem to abandon some of their chary nature to build up fat that will tide them over lean winter months. Panfish follow suit, feeding frenetically.

And hunting season is at hand.

First on the agenda come the ever-popular bushytails. Mature shoreline trees — the sycamores, oaks, hickories, elms, and walnuts — harbor squirrels in unbelievable numbers. Floating in a camouflaged johnboat or canoe, the skilled hunter can quickly harvest enough for a hearty Brunswick stew, then sit back to enjoy the panorama of the Shenandoah in her autumn dress. Leaves glow with color; wildlife is abundant at the water's edge; a brace of corpulent squirrels put a pleasant bulge in the game pouch; eager smallmouths feed with abandon. Involuntarily, a palpable feeling of gratitude wells up in the throat.

Not only gray squirrels bounce through the shoreline branches; there are ample supplies of fox squirrels as well. they are handsome creatures with fluffy orange tails that often press the scales to two and a half pounds.

Waterfowl, too, are spotted along the shoreline eddies and blowdowns. During the brief but sweet early season, wood ducks provide high jump-shooting sport. Later in the fall, the hunter will float in death-like silence in hopes of getting a shot at the fidgety mallards and blacks that take the place of the early migrating woodies along the water's edge. The sportsman may not fill his hundred-point limit on a Shenandoah duck trip, but there is too much else to enjoy on a winter float to let this mar the trip. If he spots game and gets a few shots off, that is enough.

And who knows? Luck may shine in extraordinary fashion. The hunter might well spot a gobbler sauntering along the water's edge on land he has permission to hunt. If it's before December 31, there may well be wild turkey on the Christmas dinner table and finer fare there is not.

To top off a season of river riches, there will be a final float trip for squirrels and ducks in the crisp winter light of a late December morning. If a fresh snow has bleached the river banks and dusted the leafless trees, the beauty of the Shenandoah will stand out supreme. It will fill the imagination with images to keep the sportsman content until he can again venture out to gig winter fish, battle spring smallmouths, cast for summer catfish, or float for autumn ducks.

The bounty of the river runs deep, melding a circle of the seasons.

Personalities

by Francis N. Satterlee

Robert D. Henson

Manager, Chester F. Phelps Wildlife Management Area

Bob Henson feels fortunate to have been born and raised in Buena Vista. His father, who was employed at Virginia Military Institute, was an avid hunter, especially for turkeys. From the time his son was old enough to understand and appreciate the outdoors and things wild, the elder Henson began training him to respect and appreciate these marvelous gifts of nature.

Bob recalls that when he was about eight or nine his father began teaching him about firearms safety and allowed his son to accompany him on hunting and fishing trips. However, it was not until he was about fourteen years of age that Bob was allowed to carry a gun as he accompanied his father on these trips afield. It was about this same time that Bob became interested in fishing, especially bowfishing, and he spent much of his summer hours in the pursuit of that sport.

Following his graduation from Parry-McCalver High School in Buena Vista, he became employed as hourly laborer for the Game Commission. He worked on the Pedlar District under the supervision of Wiley Hill, who was manager of that district. In the fall of 1963, he accepted employment with the United States Geological Survey and worked as a member of a survey crew, obtaining data for the updating of topographical maps of the Blue Ridge Mountains. He worked with the USGS for about a year and a half, at which time, September 1965, he was drafted into the United States Army. He served overseas with the 237th Engineer Battalion which was located in Heilbron, Germany.

Bob returned to civilian life in September 1967 to work in the computer field in Glasgow. He continued to live in Buena Vista and later that year he married Joyce Smith, who was also from that southwest Virginia city. In September of 1968 he entered Dabney-Lancaster Community College, which is near Clifton Forge. He left college about the time that his wife was expecting their first child and for one year he served as a police officer with the city of Buena Vista. At this point in his life, he was hired as manager of the Pedlar Range District with the Commission of Game and Inland Fisheries, the same place he began employment back in 1963.

In June 1980, Bob Henson was transferred to the Chester F. Phelps Wildlife Management Area near Remington to serve as its manager after the resignation of the former manager, Gary Dalton.

The most satisfactory aspect of Bob's job is his close association with the sportsmen and women of Virginia. He has a deep sense of pride in being part of the Game Commission team, and he and his wife, Joyce, and their two daughters, Leslie, ten, and Beth eight, make their home on the wildlife management area with an irresistably lovable part-sheepdog and part-English setter named "R.C."

Outdoor Notebook

Anne Browning holds the 3-pound 2½-ounce crappie she caught in a farm pond in Fluvanna County. Anne says that she doesn't know if she will be this lucky again, so she's having the 18-inch long fish mounted.

Local Litter Control Lead Named

The Virginia Division of Litter Control announced that Mrs. Jan Fitch has been awarded a Virginia Volunteer of the Year Certificate of Recognition for her outstanding leadership in local litter control activities.

Mrs. Fitch, a resident of Wintergreen in Nelson County, has provided the leadership to make Nelson County's Litter Control Program one of the best rural programs in the state. She started the effort through her garden club and expanded the activities to a countywide program involving the county government, local citizens, and the school system. As a result of her efforts, the Nelson County Board of Supervisors approved in principle the Division of Litter Control's *Virginia Plan: A Model Program To Prevent Littering*. This program takes an educational approach and seeks the involvement of every citizen. Countywide leadership comes from the Nelson County Improvement Council of which Mrs. Fitch is chairperson.

Chemicals Clue To Striper Problems

Traces of arsenic, PCB's, and other chemicals are the latest clues in a biological detective story — the mysterious decline of Atlantic Coast striped bass.

U. S. Fish and Wildlife Service biologists found the chemical residues in striped bass fry and fingerlings collected last summer from three East Coast rivers. Tests showed that the fish had weakened backbones, a condition the scientists believe is caused by toxic chemicals.

"A weakened backbone would certainly reduce the ability of striped bass to compete for food, avoid predators, or endure the stresses of migration and reproduction," according to Dr. Paul Mehrle, a biochemist at the Service's Columbia National Fisheries Research Laboratory in Missouri. "But we have a lot more work to do before we can say to what extent contaminants may be contributing to the decrease in the striped bass population."

The number of striped bass began dropping in the early 1970's and by 1978 had reached a 21-year low. Two federal fishery agencies — the Interior Department's U.S. Fish and Wildlife Service and the Commerce Department's National Marine Fisheries Services — are conducting an emergency three-year program to determine the size and distribution of striped bass populations and to find out whether the decline is natural or due to some man-made phenomenon, such as pollution or overfishing.

Steel = Lead Says FWS

The rate at which migratory waterfowl were crippled by nontoxic steel shot was virtually the same as that of lead shot during a recent Federal-State shooting test, the Interior Department's U.S. Fish and Wildlife Service has announced.

The comparison shooting was sponsored by the Service and the Missouri Department of Conservation at the Schell-Osage State Wildlife Management Area in November and December of 1979.

Steel shot has been required for use in certain areas of the country by the Fish and Wildlife Service as a way of reducing the incidence of lead poisoning in waterfowl. About 2 million birds die of lead poisoning in the United States annually after eating spent lead shot, which they mistake for seeds or grit. Steel shot is not harmful to waterfowl if it is eaten.

However, some critics of nontoxic steel shot have charged that it results in a higher incidence of crippling of migratory birds than traditional lead shot, something not borne out by these recent test results.

The Missouri testing involved about 1,300 volunteer hunters who fired approximately 11,000 shots, bagging 2,000 ducks during the 50-day hunting season. Trained observers accompanied the hunters to randomly-assigned blinds, where the effectiveness of two- and three-quarter-inch 12-gauge lead and steel shotshell loads were tested. Both observers and hunters recorded the number of shots fired, distances of shots, and number of ducks bagged or crippled. At no time during the tests, however, did the observers and hunters know the shot type or load being tested.

Using Super Double X Magnum 1½-ounce No. 4 buffered lead, Super X 1½-ounce No. 4 lead, Super X 1¼-ounce No. 2 steel, and Super X 1¼-ounce No. 4 steel, hunters and observers recorded the following results, per 100 shots fired:

	Hunter Reports:		Observer Reports:	
	Lead:	Steel:	Lead:	Steel:
Ducks bagged:	20.1	17.9	19.9	17.8
Ducks crippled:	4.5	4.7	4.5	4.7

After a statistical analysis of the data by the Missouri Department of Conservation researchers, percentages indicated no significant difference in the rate of crippling between steel and lead load users. About two more ducks were bagged per 100 shots with lead than with steel loads, however.

Duck Stamp Winner

Many hunters will be going to the local post office this month to purchase their annual "duck stamp" in preparation for next month's duck season opening. This painting of a pair of mallards winging over reeds is featured on the 1980 stamp. The work is by Dick Plasschaert of Waseca, Minnesota who was, until he won the duck stamp contest, an almost unknown artist. Although he has been painting for over 20 years, Plasschaert's realistic style had gone unnoticed until now. Plasschaert will be showing his work in Richmond, at A World of Art, on October 9, 10 and 11.

Winchester Hosts Turkey Callers

The Virginia Wild Turkey Federation has announced that its fifth annual turkey calling ocntests will be held in Winchester on Sunday, September 21.

The contests, Virginia and Mid-Atlantic Open, will be held at James Wood Memorial High School on Route 50 West in Winchester. The day's activities will begin at 8:30 A.M. and there will be numerous booths and displays along with the calling contests. A special feature this year will be seminars on the white-tailed deer, held by the nationally-known speaker, outdoor writer and photographer, Leonard Lee Rue.

Coming Next Month

NEW FEATURE
Wildlife cooking expert Joan Cone will begin a regular recipe feature in the "Outdoor Notebook" pages, beginning with trout!

BANDING WOODIES
Game Commission employees report on their findings in a bird banding project with wood ducks

BROOKIES RETURN TO DIXIE
A story on the restoration of native brook trout to southern waters

On the Waterfront

Edited by Capt.James N. Kerrick

The Aluminum Canoe — A Wonder Boat

The first hints of autumn stir yearnings to get out on the waters to fish, to explore, or just laze about. If you have not boated before, an all-purpose aluminum canoe may provide an excellent starter and remain a life-long friend. It will take you through waters placid or turbulent, shallow or deep. Typically drawing less than four inches, the canoe will go everywhere you guide it. And it rides easily atop even a small car.

All canoes (the National Marine Manufacturers Association estimates at least 1.2 million ply our waters) are not created equal. Some are sleek as a pencil, designed for those who would paddle marathon races, cadenced stroke after cadenced stroke. These are unforgiving to the casual canoeist. Others with blunt bows and sterns, and curved-up bottoms will go as fast sideways as they will forward. Whitewater crews repeating one stretch of rapids after another canoe in nothing else. Try to paddle one of these in a straight line to reach a far shore, and your work is cut out for you.

Perhaps the greatest virtue of an all-purpose aluminum canoe is that it has no serious vices. It moves well in a straight line. Two paddlers working on opposite sides of the canoe will have little trouble making headway. It also has a full bow which imparts buoyancy bow and stern, a necessity in whitewater situations or in a heavy chop on a broad lake.

Aluminum canoes were introduced in 1945 after the successful use of aluminum in WW II aircraft. Like aircraft, and for the same reasons (strength and light weight), aluminum canoes and their integral parts are made of the same material. Thwarts, seats, ribs, and gunwales all work together for the inherent strength of the canoe.

As novices become canoeists, they personalize canoeing with their skills and styles. Paddles are an obvious first step. Paddles come in many sizes and shapes. There are paddles with very narrow blades and others with broad fat blades.

It doesn't matter what product you take into the outdoors. Sooner or later you ding it, dent it, or worse. If your canoe is aluminum, don't worry. Removing dents, primarily a cosmetics assignment, is simple enough. One friend, an outdoors writer, on a canoe camping trip with his wife and children in Canada's Quetico Park tried to scare away an inquisitive bear from their overnight camp by pounding his paddle on the side of his old aluminum. The bear would disappear back into the woods for 10 minutes. But soon his fears were allayed and the noise hardly disturbed his feast of the week's provisions. That friend has yet to this day removed the dents that pounding created, but others might.

Some dents can be removed with the heel of your hand. A sharp smack into the center of the dent will pop it back into shape. For deeper dents, a rubber mallet will do the trick. Hold a block of wood against the outer edges of the dent inside, backing the mallet with the wood block. Gradually work towards the center of the dent until it pops.

Something more serious? Lost the canoe in the rapids? It wrapped around a rock and concaved? Jump up and down in it. Yes! Place your aluminum canoe between two logs. Get your buddy to sturdy her upright. Get into the canoe. Hold onto the gunwales on each side and let the old number twelves do the rest. (This procedure is not recommended for other-than-survival circumstances.)

The friend with the bear problem had to do it on a trip to the Coppermine River in the Canadian Northwest Territories one year. After a few jumps, the bottom popped and the canoe approached its original shape. With a bit more pounding using a small log found nearby, the canoe floated out —with no leaks.

Punctures? If in the woods, duct tape does the trick. No duct tape? Find a pine tree and get some of its sticky sap. Insert the sap into the hole. It should hold until you get home. When you get home, you can use plates of marine aluminum and some neoprene sealer tape.

Canoeing is a great way to get into boating inexpensively. And be sure to purchase PFDs (personal flotation devices) for the craft. Even the best canoeists have taken an occasional spill.

In Nature's Garden

by Elizabeth Murray

The Downy False Foxglove

Lest anyone accuse us of showing a bias towards pink flowers this year, it is time this month to talk about a flower which is definitely not pink, but bright yellow. The downy false foxglove is common throughout most of the state and can be found blooming from May through July along the edges of deciduous woodlands.

Aureolaria virginica is a tall but rather straggly plant growing up to four feet high but often leaning sideways as it gets older. The stems are unbranched with large, yellow, trumpet-shaped flowers up to two inches long, opening serially up the stalk, the top ones blooming last. It belongs to the Scrophulariaceae or figwort family, a large cosmopolitan group including such ornamentals as the snapdragons, speedwells, slipper flowers, monkey flowers and foxgloves. However, the family also includes partially parasitic plants, some of which are serious pests, notably the genus *Striga*, the witchweeds which infest corn crops in warmer climates.

Aureolaria itself is a hemi-parasite, that is, although it possesses perfectly good green leaves, photsynthesizes, and may be able to live on its own, it is usually found in semi-parasitic association with the roots of other species, in particular those of members of the oak family, Fagaceae. The exact nature of the parasitic relationship is imperfectly understood. Charles Werth, who studied *Aureolaria pedicularia* for his master's degree at University of Virginia, has demonstrated that this species shows a distinct preference for oak roots, with a secondary liking for roots of the heath family, Ericaceae. The parasitic connection is made through structures called *haustoria* which start as bumps on the root, and if they find a suitable host root, form an association with it through which nutrients can be absorbed. Mr. Werth counted the numbers of haustoria found on the roots of host species, and found that 98% of the haustoria on identifiable hosts were found on oak roots, and about 1% on ericaceous roots. In one exceptional plant, found growing in a sandy soil population of plants in South Carolina, he counted no fewer than 11,000 haustoria, a tribute both to the parasitic "desires" of the plant, and to Mr. Werth's counting tenacity.

Downy false foxglove is a rather cumbersome common name, but all parts of the name are applicable. *A. virginica* is a lightly hairy plant, and while not a true foxglove, that name being pre-empted by the genus *Digitalis*, a member of the same family, the flowers are tubular in shape and can be imagined to fit over the paw of a fox — a small fox, anyway!

Fortunately, the parasitic habits of the downy false foxglove do not noticeably harm their oak or ericaceous hosts, and the plant is not an agricultural problem. So we can, in good conscience, pause to admire it as it brightens up the verges of our woods with a gay spot of yellow in midsummer.

(Aureolaria virginica)
illustration by Lucile Walton


KNUTH

by Carl "Spike" Knuth

The Ringneck Duck

Its Latin name is *Nyroca colloris* which literally means "collared ducks," giving rise to the name ring-necked duck. Actually, it should be referred to as the ringbill, since its neck collar or "ring" is quite obscure, while the white rings around its bill are very noticeable. Other, more common names include blackhead, blackjack, and marsh bluebill.

The name marsh bluebill is due in part to its resemblance to the bluebill or scaup, and the fact that unlike other diving ducks, the ringbill shows a preference for swampy-edged marsh sloughs and ponds over broad, open water areas. Here it is frequently found in the company of hooded mergansers, wood ducks, and coots, as it feeds along the shallow margins of wooded sloughs. Virginia's tidal rivers and tree-lined reservoirs provide ideal ringbill habitat.

In late February or early March, the ringbill leaves the tree-studded Chickahominy or the back water sloughs of the James and heads for northern waters. It doesn't stay in any one place too long on its northward journey. By early May it is already on its breeding grounds.

The ringbill male appears as a blackish duck with a dark head, gray sides and a white hash mark just behind the chest, in front of its folded wings. Its chest, neck and rump are also black. It has longer than usual feathers on its crown which gives its dark, purple-glossed head a crested, puffy appearance. While the drake ringbill is similar to the scaup, it has a darker back and no white speculum. The hen is brownish with paler cheeks, a whitish chin and a white eye ring. While similar to the scaup and redhead females, it is smaller. Its size and eye ring distinguish it from the redhead hen and lack of a definite white face distinguishes it from the hen scaup. The ringbill also has a pearl-gray speculum which further sets it apart from the scaup. It averages 16 to 18 inches in length.

In flight, the white hash mark on the drake is not too noticeable, but the gray speculum, black upper-parts and whitish underparts are good field marks. Females are best recognized by their accompanying mates, and both species can be distinguished from scaup and redheads in flight by lack of a white speculum, long body, white face patches and of course red head.

Since 1930, the ringbill has actually expanded its breeding range to include the northeastern United States and Canada. However, their primary breeding range is in the parklands of Canada in the sedge-meadow marshes and bogs. They usually nest very low over the water in wet, boggy places bordering the edges of marshes, ponds and sloughs. The nests are constructed of grasses, reeds, bullrushes and other materials found around the nest site. An average of eight to 12 dark, olive-buff eggs are laid. After the eggs are laid, the hen is left alone to incubate and to care for the young.

Ringbills are nervous, alert birds, swimming buoyantly and quickly, and they are able to get airborne more easily than most divers. Their wings produce a slight whistling sound as they do. While they feed mainly in shallow water, they are good divers and can go as deep as 40 feet for food. About 81 percent of their diet is vegetable matter.

Ringbills begin their return journeys in early October and by the end of November most of them are well on their way south. Reelfoot Lake, Tennessee is noted for its concentrations of migrating ringnecks. While some of the largest flocks winter in Tennessee and Louisiana, the majority of ringbills winter in the Atlantic Flyway or Mexico, with its wintering range extending as far as northern South America.

Ringbills fly in small groups of up to a dozen birds in an open formation and with a swift, direct flight. One ringbill was clocked at 66 miles per hour in straightaway flight! They decoy readily and pitch into a sparse decoy without circling. Shouting apparently does not deter them from using favored feeding areas and they'll consistently return to a certain pond they are fond of. Virginia's numerous tidal river bottoms provide good ringbill hunting for those hunters who slosh through shallow, muddy, flooded timber to inaccessible places. The ringbills vegetable diet makes it a fine quality table bird.

National Hunting and Fishing Day

September 27, 1980

"To Insure the Future. . ."